



# Work Order ID 66296

February 9, 2011 11:33:57 AM




Page 1


Item ID: D2500-1-190 Accept  Setup Start   
Revision ID: Stop   
Item Name: Ext'n - 'I' Beam Tube 4"  
Start Date: 2/09/11 Start Qty: 41.00  Cust Item ID:  
Required Date: 3/11/11 Req'd Qty: 41.00  Customer:  
Reference:

Approvals: Process Plan: CL Date: 11/02/09 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2500	Rev H								

100  PURCHASING 0.00  
Purchasing Memo 0.00  
Purchasing Issue P/O: 13448

- a) Extrude as per Dwg D2500
- b) Material: 6061-T6 (QQ-A-200/8)
- c) Minimum yield tensile strength = 35 ksi
- d) Minimum ultimate tensile strength = 38 ksi
- e) Minimum elongation = 8%
- f) Order at 190" long
- g) Bon L Canada Inc. tool # 897105
- h) To be packed per DSK 066
- i) Pull test to ASTM standard B221 required.
- j) Material certification is required

110  Receive & Inspect for Damage & Mat'l Certs 0.00  
Packaging Memo 0.00  
Packaging Ensure material certification is attached

CL 11/02/09 (91)

CL 11/14/11 (97)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 66296

February 9, 2011 11:33:57 AM



Page 2

Item ID:	D2500-1-190	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Ext'n -'I' Beam Tube 4"					
Start Date:	2/09/11	Start Qty:	41.00		Cust Item ID:	
Required Date:	3/11/11	Req'd Qty:	41.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC6- Inspect dimensions to drawing  Memo Check Pull test per Dwg D2500 for compliance page attached. Check hardness with Webster tester	0.00  0.00				<u>COOKED</u> <u>X44</u>			
130  Packaging Packaging	Identify as per dwg & Stock Location: <u>LG</u>  Memo	0.00  0.00							
140  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							

*Suloulu*

*Re inspect qty 410 pull out for spot inspectors*

*11-04-09*

*A.E x44*

*11.04.09*

*11/4/13*

*11-04-13*  
*(44)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries

## February 9, 2011 11:33:56 AM

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[illegible]

**Required Qty: 41.00**

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190P 		Purchased	No			110	Each	0.0000	1 	41		Rec'd 4/4/77	GG
Ext'n - 1' Beam Tube 4"													

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# SPECIFICATION CONTROL DRAWING

## D2500-1-XXX EXTRUSION & D2500-3-XXX EXTRUSION

### NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI  
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY WITH DART B/N USING FINE POINT PERMANENT INK MARKER

7) WEIGHT: D2500-1 = 0.143 lb/in, D2500-3 = 0.066 lb/in

8) FOR D2500-1 PART NUMBER IS D2500-1-XXX WHERE XXX IS CUT LENGTH (EX. D2500-1-190 IS 190" LONG). D2500-1 EXTRUSION MANUFACTURED FROM:

- A) BON L DIE # 897105 -> PREFERRED
- B) CARADON MIDEAST DIE # PAH-28030
- C) CARADON MTL DIE # MH-18868

9) FOR D2500-3, PART NUMBER IS D2500-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EX. D2500-3-100 IS 100" LONG). D2500-3 EXTRUSION MANUFACTURED FROM:

- A) CARADON INDALEX DIE # MS-18867

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ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 66197 66296

C21102107

RELEASED  
2010-02-02  
MJP

H	REDRAW & REFORMAT DWG. CORRECT BON L DIE # TYPO (ZN B8-1), ADD AMS & ASTM MAT'L OPTION (ZN D8-1), TOLERANCES NOW PER CARADON DWG (SHT 2)	CP	09.07.16
G	ADD DIE NUMBERS & 'DIMS IN INCHES' NOTES	PH	07.04.17
F	CHANGE MAT. TO 6061-T6	DS	97.09.29
E	CHANGE MATERIAL TEMPER	DS	96.10.24
D	ADD MATERIAL PROPERTIES	DS	96.10.07
C	ADD D2500-3 WEB	BW	96.04.26
B	CHANGE INTERNAL WEB	DS	96.03.24
A	NEW ISSUE	DS	96.03.19
REV	DESCRIPTION	BY	DATE
DESIGN	4	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2500 REV. H SHEET 1 OF 2 TITLE EXTRUSION SCALE NTS DATE 09.07.16 <small>COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED BY THE SUPPLIER UNDER THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	
DRAWN	92		
CHECKED	PH		
MFG. APPR.	MJP		
APPROVED	MJP		
DE APPR.	MJP		





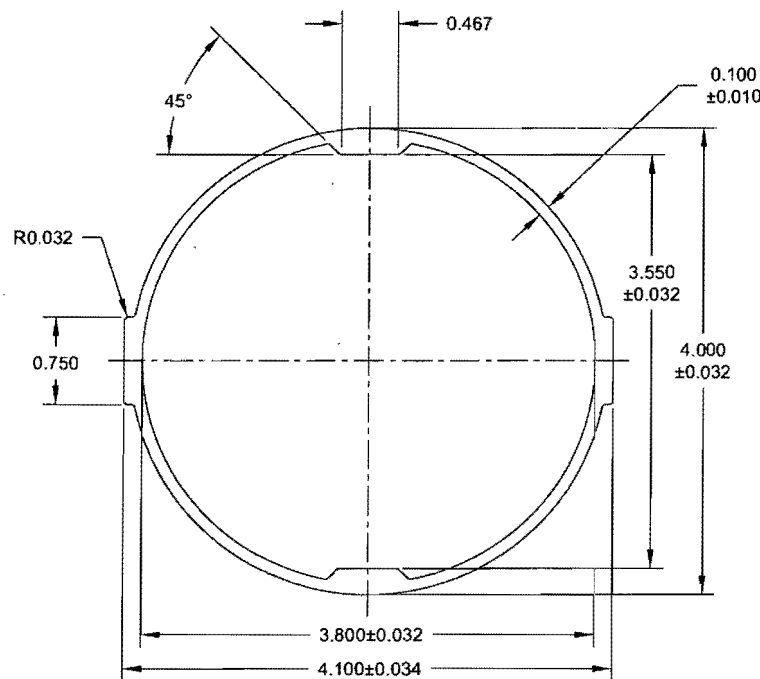
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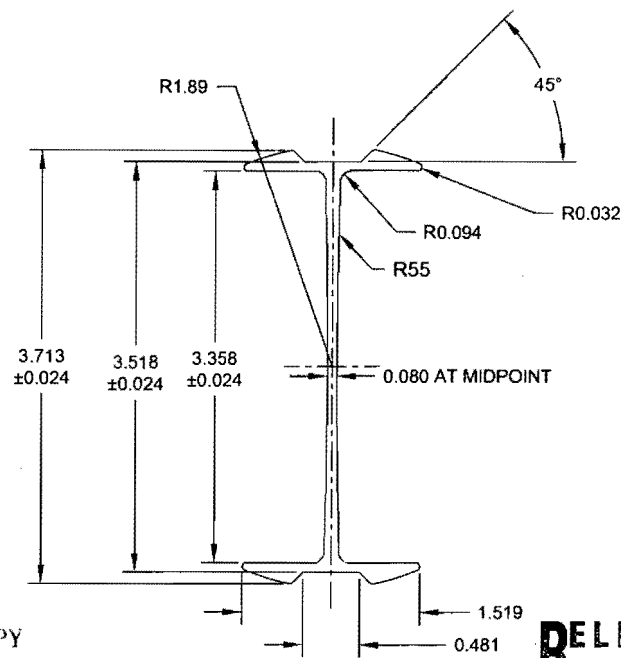
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**D2500-1**

SHOP COPY  
RETURN TO  
ENGINEERING  
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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. ~~66197~~

66296



**D2500-3**

**RELEASED**  
2010-02-02  
MAP

DESIGN	4	<b>DART AEROSPACE LTD</b>	
DRAWN	Q	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BT	DRAWING NO.	REV. H
MFG. APPR.	DN	D2500	SHEET 2 OF 2
APPROVED	MP	TITLE	SCALE
DE APPR.	MP	EXTRUSION	NTS
DATE	09.07.16	<small>COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL. UNLESS SHOWN OTHERWISE, IT IS NOT TO BE USED FOR ANY PURPOSE, OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

\*\*\*PO REPRINT\*\*\*

Purchase Order ID PO13448

Purchase Order Date 2/08/11

PO Print Date 2/09/11

Page Number 1 of 1

Order From :

VC-BON001

SIGNATURE ALUMINUM  
1850 CLEMENTS ROAD  
PICKERING, ON L1W 3R8  
CA

Contact Name  
Vendor Phone 800 563 1079  
Vendor Fax 800 565 8339  
Vendor Account Nbr

Buyer Chantal Lavoie  
Requisition Nbr  
Tax Resale Nbr 10127-2607  
Terms Net 30  
Currency CAD  
FOB Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

FAKED  
FCX11/02/11

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req. Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2500-1-190P	Ext'n - 1' Beam Tube 4"	4/16/11 7/11/11 Yes	41.00 Each	Yours ppd	\$78.8030	\$3,230.92

Special Inst: EXTRUDE AS PER DWG D2500  
REV.H  
B66296  
MATERIAL: 6061-T6 (QQ-A-200/8)  
MINIMUM YIELD TENSILE  
STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE  
STRENGTH = 38 KSI  
MINIMUM ELONGATION = 8%  
190" LONG  
SIGNATURE ALUMINUM TOOL: #  
897105  
TO BE PACKED PER DSK 066  
PULL TEST TO ASTM STANDARD  
B221 REQUIRED

MATERIAL CERTIFICATION  
REQ'D UPON DELIVERY

PO Total: \$3,230.92

Change Nbr: 2

Change Date: 2/09/11

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable





ACCT# 46024

## INVOICING AND COMPANY LOCATION

## SHIPPING MANIFEST

SIGNATURE ALUMINUM CANADA  
1850 CLEMENTS ROAD  
PICKERING ON L1W 3R8MANIFEST DATE / DATE DU BODEREAU  
04-05-11MANIFEST NUMBER / N° DE BODEREAU  
000506SALES ORDER NUMBER / N° DE COM  
68722

## SHIP TO / EXPÉDIÉ À

DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
CANADA

PHONE: 613-632-5200

## SOLD TO / VENDUE À

DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
CANADA

PHONE: 613-632-5200

TERMS / FREIGHT

PP

REFER TO  
THESE NUMBERS ON  
ALL CORRESPONDANCEREFEREZ-VOUS A CES  
NUMEROUS POUR TOUTE  
CORRESPONDANCE

LOCATION	TRAILER NUMBER / REMORQUE Nombre	SALESMAN / VENDEUR	CREDIT REP / REP DU CRÉDIT	SALES REP / REP. DES VENTES
PIC	GOLDEN	138		M. BATES
CUSTOMER ID / ID DU CLIENT	ORDER DATE / DE LA COM	CUSTOMER PO NUMBER / CLIENT PO Nombre	JOB / FICHIER	FIELD SALES REP / REP REGIONAL DES VENTES
46024	02/10/11	13448 000506		M. BATES
BILL OF LADING NUMBER / NO. DE CONNAISSEMENT	CARRIER / TRANSPORTEUR			CUST SERVICE REP / REP. SERVICE CLIENTELE
000506	GOLDEN			DLB

ITEM NO. / NUMÉRO	ORIGINAL ORDER QUANTITY / Quantité d'ordre ORIGINAL	UNIT / UNITÉ	PREVIOUS SHIPPED QUANTITY / PRÉCÉDENT Quantité livrée	MFG. PART NUMBER / MFG. PARTIE NUMÉRO	ALLOY & TEMPER / ALLIAGE & TEMPER	FINISH DESCRIPTION / DESCRIPTION DE FINITION	NBR OF PKGS / NBR DE PKGS	GROSS LBS / LIVRES BRUT	NET QUANTITY / QUANTITÉ NETTE	UNIT / UNITÉ	QUANTITY DUE / Quantité en raison
001	1,126	LB		DAA-897105-2	6061		2	1,219	1,179	LB	
			511 KG	D2500-1-190				553	535	KG	
			42 PC						44	PC	
						Min: 0 % Max: 0 %					
						800354 / 103024	1	637	617		23 PC
						800354 / 103025	1	582	562		21 PC

Transportation/Traffic damages and/or shortage claims are to be noted on the delivery copy of sellers shipping manifests and signed and dated below by customers authorized representatives.  
No return materials will be accepted for credit without permission. The articles and/or services covered by this shipping manifest were produced in accordance with the fair labor standards act of 1938 as amended. Order accepted subject to the terms and conditions stated on the reverse side.

CUSTOMER ACKNOWLEDGEMENT OF GOODS DELIVERED AND CONDITION

Page 1

2	1,219	1,179	LB
	553	535	KG
		44	PC
TOTALS			

DATE OF DELIVERY

DRIVER





# CERTIFICATE OF COMPLIANCE

## SIGNATURE ALUMINUM CANADA

1850 CLEMENTS RD  
PICKERING, ON L1W 3R8

Cert Date	Cert No	Sales Order	Page
04/05/2011	5257946	68722	1
Cust Ref	B/L No	Lot	Date
113448	000506	800354	04/05/11
Sold To		Ship To	
46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA		46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA	
Item No	Part No	Item Description	Cust Part
001	DAA-897105-2	190" Mill 6061 T6	D2500-1-190
Gross Weight	1,219 LBS		
Net Qty	1,179 LBS 44 PCS 2 PKGS		
Specification	AMS-QQ-A-200/8 & ASTM B221-08		

### Mechanical Tests:

Tensile	Yield	% Elongation	Conductivity	HREW
MPA / KSI	MPA / KSI			
300.7 / 43.6	273.8 / 39.7	8.4	0.0	92

### Chemical Analysis:

SI	FE	CU	MN	MG	CR	ZN	TI
0.65	0.27	0.26	0.08	0.90	0.07	0.08	0.02

Salvador

This will certify that the material described herein has been inspected and tested in accordance with Signature Aluminum Canada's standard sampling and testing procedures or in accordance with the requirements of any specification forming a part of the material description to the extent indicated herein. Data of chemical composition for the material and test results from samples representative of the material are set forth above hereof or in any attachments hereto. This information shows that the material meets the applicable requirements. Inspection and test records are maintained on file. This certificate shall be deemed apart of and subject to the terms and conditions of warranty set forth on the reverse side of our order acknowledgement form. No other warranties are applicable.

R. Petersen, QA Manager Signature Aluminum Canada Inc

